

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

### **Listing of Claims:**

1. (Currently amended) An image sensor comprising:
  - (a) a plurality of photosensitive sites ~~which each comprising circuitry designed to convert incident light into a charge, wherein the plurality of photosensitive sites form for forming~~ a bounded array of active imaging pixels; and
  - (b) one or more substitutional ~~pixels~~ pixel sites arranged in predetermined locations and interspersed ~~within amongst the boundary of the bounded~~ array of active imaging pixels;  
wherein each active imaging pixel located at the one or more predetermined substitutional pixel sites is replaced with one or more ~~the~~ substitutional pixels each comprising circuitry ~~are~~ of a different design from the active imaging pixels ~~which where the one or more substitutional pixels provides data, information or function different from the active imaging pixels for improving performance, operation, manufacture, and/or assembly of the image sensor.~~
2. (Currently amended) The image sensor as in claim 1, wherein at least one of the one or more substitutional pixels ~~are~~ is an amplifier circuit ~~circuits~~ or a buffer circuit ~~circuits~~ for improving distribution of current or voltage across the array of pixels.
3. (Currently amended) The image sensor as in claim 1, wherein at least one of the one or more substitutional pixels ~~are~~ is an amplifier circuit ~~circuits~~ or a buffer circuit ~~circuits~~ for improving signal integrity within or across the array of pixels.
4. (Currently amended) The image sensor as in claim 1, wherein at least one of the one or more substitutional pixels has ~~have~~ response characteristics for

determining alternate image parameters including alternate color, infrared constituents or other photo-metric parameters.

5. (Currently amended) The image sensor as in claim 1, wherein at least one of the one or more substitutional pixels ~~are~~ is a fiducial element ~~elements~~ which can be used for a mechanism for aligning the image sensor.

6. (Currently amended) The image sensor as in claim 1, wherein at least one of the one or more substitutional pixels ~~provides~~ provide a ground contact.

7. (Cancelled)

8. (Currently amended) A camera comprising:

(a) an image sensor comprising:

(a1) a plurality of photosensitive sites ~~which~~ each comprising circuitry designed to convert incident light into a charge, wherein the plurality of photosensitive sites form ~~for forming~~ a bounded array of active imaging pixels; and

(a2) one or more substitutional ~~pixel~~ pixels sites arranged in predetermined locations and interspersed within ~~amongst the boundary of the bounded~~ array of active imaging pixels;

wherein each active imaging pixel located at the one or more predetermined substitutional pixel sites is replaced with one or more ~~the~~ substitutional pixels ~~are~~ each comprising circuitry of a different design from the active imaging pixels ~~which~~ where the one or more substitutional pixels provides data, information and/or function different from the active imaging pixels for improving performance, operation, manufacture, and/or assembly of an imaging system; and

(b) a mechanism for correcting an image created by the bounded array of active imaging ~~plurality of~~ pixels by providing a signal level for an image site to at ~~[[a]]~~ least one substitutional pixel ~~location~~.

9. (Currently amended) The image sensor as in claim 8 wherein the mechanism for correcting and providing the signal level to the at least one ~~[[the]]~~ substitutional pixel ~~location~~ is done using nearest neighbor interpolation methods.

10. (Currently amended) A camera comprising:

(a) an image sensor comprising:

(a1) a plurality of photosensitive sites ~~which~~ each comprising circuitry designed to convert incident light into a charge, wherein the plurality of photosensitive sites form ~~for forming~~ a bounded array of active imaging pixels; and

(a2) one or more substitutional ~~pixel~~ pixels sites arranged in predetermined locations and interspersed ~~within~~ amongst the ~~bounded boundary of the~~ array of active imaging pixels;

wherein each active imaging pixel located at the one or more predetermined substitutional pixel sites is replaced with one or more ~~the~~ substitutional pixels each comprising circuitry ~~are~~ of a different design from the active imaging pixels ~~which~~ where the one or more substitutional pixels provides data, information and/or function different from the active imaging pixels for improving performance, operation, manufacture, and/or assembly of an imaging system.

11. (Currently amended) The camera as in claim 10, wherein at least one of the one or more substitutional pixels ~~are~~ is an amplifier circuit ~~circuits~~ or a buffer circuit ~~circuits~~ for improving distribution of current or voltage across the array of pixels.

12. (Currently amended) The camera as in claim 10, wherein at least one of the one or more substitutional pixels ~~are~~ is an amplifier circuit ~~circuits~~ or a buffer circuit ~~circuits~~ for improving signal integrity within or across the array of pixels.

13. (Currently amended) The camera as in claim 10, wherein at least one of the one or more substitutional pixels ~~has~~ have response characteristics for determining alternate image parameters including alternate color, infrared constituents or other photo-metric parameters.

14. (Currently amended) The camera as in claim 10, wherein at least one of the one or more substitutional pixels ~~are~~ is a fiducial element ~~elements~~ which can be used for a mechanism for aligning the image sensor.

15. (Currently amended) The camera as in claim 10, wherein at least one of the one or more substitutional pixels provides ~~provide~~ a ground contact.

16. (Cancelled)